In floy warshall algorithm we can find shortest path form every node to every other node using a grid.

If costing of any node to itself is less than zero it means we have a negative cycle.

In below code example we are assuming that we have an adjacency matrix. We can have adj list as well for input.

```java
class Solution
{
    public void shortest_distance(int[][] matrix)
    {
        // Code here
        int n = matrix.length;

        for (int k = 0; k < n; k++) {
            for (int i = 0; i < n; i++) {
                for (int j = 0; j < n; j++) {
                    if (matrix[i][k] == -1 || matrix[k][j] == -1)
                        continue;
                    if (matrix[i][j] == -1)
                        matrix[i][j] = Integer.MAX_VALUE;
                    matrix[i][j] = Math.min(matrix[i][j], matrix[i][k] + matrix[k][j]);
                }
            }
        }
    }
}
```

We can use Dijsktra in place of floyd warshall and it'll result in V * E * log V time complxity. However, we won't be able to handle the negative edges

Floyd warshall has N^3 time complexity and N^2 space complexity for matrix.